



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/735,366	12/12/2003	Michael J. Douglas	64180-198000	1793

7590 09/22/2004

Joy Ann G. Serauskas  
McDermott, Will & Emery  
227 West Monroe  
Chicago, IL 60606-5096

EXAMINER

KUHNS, SARAH LOUISE

ART UNIT	PAPER NUMBER
----------	--------------

1761

DATE MAILED: 09/22/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No.	Applicant(s)	
	10/735,366	DOUGLAS ET AL.	
	Examiner	Art Unit	
	Sarah L Kuhns	1761	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <sup>3</sup> MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 12 December 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-40 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-40 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)               | Paper No(s)/Mail Date. _____  |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                                    |

**DETAILED ACTION**

***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

1. Claims 3 and 19 are rejected under 35 U.S.C. 112, second paragraph, as failing to further limit claim 1. Claim 3 depends on claim 1, but recites a weight composition that contradicts that recited in claim 1. Appropriate correction is required.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-6, 10-22, 25, 26, 28-30, 33, 34, and 36-40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dayrit et al., U.S. Patent 6,599,639 in view of Ennis et al., U.S. Patent 6,663,905 and <http://ceh.sric.sri.com>.

In regard to claims 1-3, 18, and 19, Dayrit discloses a multilayer structure comprising an outer layer (22) comprising a blend of linear low density polyethylene and low density polyethylene (column 5, line 45); a first polyamide layer comprising a blend of semi-crystalline polyamide and amorphous polyamide (14, column 5, line 24); a first tie layer disposed between

Art Unit: 1761

said outer layer and said first polyamide layer (18); a barrier layer, comprising ethylene vinyl alcohol copolymer, disposed adjacent to the first polyamide layer (12); a second polyamide layer disposed adjacent to the barrier layer comprising a blend of semi-crystalline polyamide and amorphous polyamide (16, column 5, line 24); a sealant layer comprising a blend of linear low density polyethylene and low density polyethylene (24); and a second tie layer disposed between the sealant layer and the second polyamide layer (20). Dayrit fails to disclose a package comprising meat. However, Ennis teaches the use of a multilayer structure (column 2, line 22) comprising an outer layer (112), a barrier layer (114), a puncture-resistant layer (116), and a sealant layer (118), in a package for bone-in meat (column 1, line 7). It would therefore be obvious to extend the use of the multilayer structure of Dayrit to packaging bone-in meat because multilayer structures are resistant to puncture by bone material. Dayrit does not disclose the molar concentration of ethylene in the ethylene vinyl alcohol copolymer used in the barrier layer, but the ethylene content of commercial ethylene-vinyl alcohol copolymer ranges from 30 to 50 mole percent (<http://ceh.sric.sri.com>), which is comparable to the molar concentration disclosed. In addition, Dayrit fails to expressly disclose a sealant layer that is a greater percent of the volume of the multilayer structure than the outer layer. However, Dayrit does teach that the final film thickness can vary (column 9, line 63) and it is therefore expected that the individual layers of a multilayer structure may also vary in thickness. As such, it would be obvious to modify the thicknesses of the individual layers in order to achieve the desired properties of the multilayer structure. Although Dayrit does not disclose the composition by weight of the polyamide layer, it is known in the field to blend amorphous polyamides and semi-crystalline polyamides (column 5, line 24) and it would therefore be obvious to choose weight

compositions, such as those claimed, that maximize implosion resistance, forming ability, and the other qualities sought.

In regard to claims 4, 5, 20, 21 and 34, Dayrit appears to disclose the first and second polyamide layers comprising about an equal percent by volume of the multilayer structure (figure 1). However, Dayrit does teach that the final film thickness can vary (column 9, line 63) and it is therefore expected that the individual layers of a multilayer structure may also vary in thickness. As such, it would be obvious to modify the thicknesses of the individual layers in order to achieve the desired properties of the multilayer structure.

In regard to claims 6, 17, and 22, Dayrit does not expressly disclose heat-shrinking the multilayer structure around meat. Dayrit also does not expressly disclose an oriented multilayer structure. Ennis discloses a multilayer structure that is heat-shrunk around the meat product (column 23, line 38), and it is well established in the field to use multilayer structures in such a way. Ennis also discloses a biaxially-oriented multilayer structure (column 2, line 40). It would therefore be obvious to utilize an oriented multilayer structure in order to provide the structure with toughness, puncture resistance and oxygen barrier properties.

In regard to claims 10-12, 25, 26, 28 and 36-38, Dayrit discloses a coextruded film (column 2, line 23), but fails to disclose the use of irradiation to promote cross-linking. However, Ennis discloses a multilayer structure that is irradiated to promote crosslinking both between the layers and within the layers of the structure, and wherein all layers are coextruded to form the multilayer structure (column 18, line 32). It would be obvious to use irradiation to promote cross-linking, thereby increasing the strength of the multilayer structure.

In regard to claims 13, 14, 29, 30, 39 and 40, Dayrit discloses a film thickness of 3.5 to 5.5 mils (column 6, line 63).

In regard to claims 15, 16, and 32, Dayrit fails to disclose a package comprising meat. However, Ennis teaches a package for meat comprising a first wall comprising a multilayer structure (column 23, line 38). Ennis further discloses a package comprising bone-in meat (column 1, line 7). It would therefore be obvious to use the invention of Dayrit for packaging bone-in meat, as taught by Ennis, because multilayer structures are resistant to puncture by bone material.

In regard to claim 33, Dayrit discloses a method for packaging comprising coextruding a multilayer structure (column 2, line 23) comprising a multilayer structure comprising an outer layer (22) comprising a blend of linear low density polyethylene and low density polyethylene (column 5, line 45); a first polyamide layer comprising a blend of semi-crystalline polyamide and amorphous polyamide (14, column 5, line 24); a first tie layer disposed between said outer layer and said first polyamide layer (18); a barrier layer, comprising ethylene vinyl alcohol copolymer, disposed adjacent to the first polyamide layer (12); a second polyamide layer disposed adjacent to the barrier layer comprising a blend of semi-crystalline polyamide and amorphous polyamide (16, column 5, line 24); a sealant layer comprising a blend of linear low density polyethylene and low density polyethylene (24); and a second tie layer disposed between the sealant layer and the second polyamide layer (20). Dayrit fails to disclose a package comprising meat. However, Ennis teaches the use of a multilayer structure (column 2, line 22) comprising an outer layer (112), a barrier layer (114), a puncture-resistant layer (116), and a sealant layer (118), in a package for bone-in meat (column 1, line 7). It would therefore be

obvious to extend the use of the multilayer structure of Dayrit to packaging bone-in meat because multilayer structures are resistant to puncture by bone material. Dayrit does not disclose the molar concentration of ethylene in the ethylene vinyl alcohol copolymer used in the barrier layer, but the ethylene content of commercial ethylene-vinyl alcohol copolymer ranges from 30 to 50 mole percent (<http://ceh.sric.sri.com>), which is comparable to the molar concentration disclosed. In addition, Dayrit fails to expressly disclose a sealant layer that is a greater percent of the volume of the multilayer structure than the outer layer. However, Dayrit does teach that the final film thickness can vary (column 9, line 63) and it is therefore expected that the individual layers of a multilayer structure may also vary in thickness. As such, it would be obvious to modify the thicknesses of the individual layers in order to achieve the desired properties of the multilayer structure. Although Dayrit does not disclose the composition by weight of the polyamide layer, it is known in the field to blend amorphous polyamides and semi-crystalline polyamides (column 5, line 24) and it would therefore be obvious to choose weight compositions, such as those claimed, that maximize implosion resistance, forming ability, and the other qualities sought. Dayrit also does not disclose biaxially orienting the multilayer structure, but this type of orientation is taught by Ennis (column 2, line 40). It would be obvious to employ biaxial orientation in the claimed invention in order to increase the tensile strength of the film and decrease the percentage of elongation at break.

3. Claims 7-9, 23, 24, 27, 31 and 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dayrit et al., U.S. Patent 6,599,639 in view of Ennis et al., U.S. Patent 6,663,905 and <http://ceh.sric.sri.com>, as applied to claims 1, 15, and 33 above, in further view of Vicik, U.S. Patent 5,698,279.

Art Unit: 1761

In regard to claims 7, 23 and 35, Dayrit fails to disclose a multilayer structure that is annealed. Vicik does teach an annealed multilayer structure (column 7, line 23). As such, it would be obvious to anneal the multilayer structure claimed in order to stabilize the film.

In regard to claims 8, 9, 24, and 27, Dayrit fails to disclose moisturizing the multilayer structure by application of water or plasticizing the structure. Vicik teaches that a multilayer structure can be plasticized by contact with water (column 11, line 22). It would therefore be obvious to plasticize the multilayer structure claimed in order to facilitate orientation.

In regard to claim 31, Dayrit fails to disclose a package in the form of a tube having a space therein for meat, but such a package is taught by Vicik (figure 4). It would be obvious to modify the shape of the package in order to better accommodate the specific foodstuff that is being packaged.

4. Claim 32 is rejected under 35 U.S.C. 103(a) as being unpatentable over Dayrit et al., U.S. Patent 6,599,639 in view of Ennis et al., U.S. Patent 6,663,905 and <http://ceh.sric.sri.com>, as applied to claim 15 above, in further view of Bekele, U.S. Patent, 5,491,009. Dayrit fails to disclose a package where the first wall is heat-sealed to a second wall. However, Bekele teaches a package wherein the first wall is heat-sealed to a second wall and wherein there is space between the two walls for a meat product (column 1, line 46). It would therefore be obvious to extend the use of the multilayer structure of Dayrit to packaging meat in the way described by Bekele.



Art Unit: 1761

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sarah L Kuhns whose telephone number is 571-272-1088. The examiner can normally be reached on Monday - Friday from 8:00 am - 4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Milton Cano can be reached on 571-272-1398. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

SLK



MILTON I. CANO  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 1700